

## Abstract

The present invention relates to an improved approach for the treatment of microbial infections in mammals. Specifically, the invention provides methods and reagents for expressing in mammalian cells proteins that have anti-microbial activity. The invention provides both genes which have been modified to allow expression and preferably secretion of active protein in desired mammalian cells or tissues, and methods of introducing such modified genes into desired mammalian cells and/or tissues. Most specifically, genes encode anti-staphylococcal proteins are delivered to mammalian cells and/or tissues by methods of gene delivery, including gene therapy and the production of transgenic animals, for the treatment of mastitis in ruminant animals.